IN THE CLAIMS:

Claims 1-25 (cancelled)

Claim ~~26~~ 3 (new): A method for determining heat changes in chemical compounds caused by catalytic activity, the method comprising:

initiating physical or chemical processes by exposing chemical compounds to catalysts that are arranged in the form of a catalytic library over the surface of a library plate; and

recording a difference image of the heat changes in the chemical compounds using an infrared camera;

wherein the image is obtained by subtracting an infrared emission recorded prior to the beginning of the processes from an infrared emission recorded during the course of the processes and wherein said library plate consists of slate.

Claim ~~27~~ 2 (new): A method according to claim ~~26~~ 1, wherein the library plate is coated with a non-wetting infrared-transparent film in the regions not occupied by catalyst.

Claim ~~28~~ 3 (new): A method according to claim ~~26~~ 1, wherein the library plate comprises anti-reflection coatings.

Claim ~~29~~ 4 (new): A method according to claim ~~26~~ 1, wherein a wavelength specific infrared filter is used.

Claim ~~30~~ 5 (new): A method according to claim ~~26~~ 1, wherein an infrared transparent window is situated between the infrared camera and the catalysts.

Claim ~~31~~ 6 (new): A method according to claim ~~26~~ 1, wherein the catalyst components are carbides, nitrides or zeolites.

Claim ~~32~~ 7 (new): A method according to claim ~~26~~ 1, wherein the library plate contains reaction cavities comprising liquid reaction solutions with homogeneous catalysts.

Claim 33 (new): A method according to claim 32, wherein enzymes or soluble organometallic compounds are employed as said catalysts.

Claim 34 (new): A method according to claim 26 or 32, wherein the selectivity or the enantioselectivity of catalyzed reactions is determined on the library.

Claim 35 (new): A method for determining heat changes in chemical compounds caused by catalytic activity, the method comprising:

initiating physical or chemical processes by exposing chemical compounds to catalysts that are arranged in the form of a catalytic library over the surface of a library plate; and

detecting heat changes in the chemical compounds with an infrared camera with spatial resolution;

wherein a difference image of the heat changes is recorded, the difference image resulting from the subtraction of the infrared emission intensities recorded prior to the beginning of the reaction from the intensities obtained under reaction conditions, and the library plate has an IR-reflectivity close to, at or below the IR-reflectivity of slate.

Claim 36 (new): A method according to claim 35, wherein the library plate is coated with a non-wetting infrared-transparent film in the regions not occupied by catalyst.

Claim 37 (new): A method according to claim 35, wherein the library plate comprises anti-reflection coatings.

Claim 38 (new): A method according to claim 35, wherein a wavelength specific infrared filter is used.

Claim 39 (new): A method according to claim 35, wherein an infrared transparent window is situated between the infrared camera and the catalysts.

Claim ~~40~~ 15 (new): A method according to claim ~~35~~ 10, wherein the catalyst components are carbides, nitrides or zeolites.

Claim ~~41~~ 16 (new): A method according to claim ~~35~~ 10, wherein the library plate contains reaction cavities comprising liquid reaction solutions with homogeneous catalysts.

Claim ~~42~~ 17 (new): A method according to claim ~~41~~ 16, wherein enzymes or soluble organometallic compounds are employed as said catalysts.

Claim ~~43~~ 18 (new): A method according to claim ~~35~~ 10 or ~~41~~ 16, wherein the selectivity or the enantioselectivity of catalyzed reactions is determined on the library.

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